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MEMORANDUM TO HOLDERS OF ANNEXES A and B, NIE 11-4-61:
"MAIN TRENDS IN SOVIET CAPABILITIES AND POLICIES, 1961-1966,"
dated 24 August 1961

1. The United States Intelligence Board has recently approved a rescheduling of estimates on Soviet capabilities and policies, in order to provide for a series of relatively short, topical estimates on these subjects, to be issued at intervals over the coming months. The new series will replace the compendium on the USSR, formerly scheduled annually as NIE 11-4, "Main Trends in Soviet Capabilities and Policies." In accordance with this rescheduling, there will be no full text issuance of NIE 11-4-61.

2. To insure that up-to-date, coordinated statements are available on Soviet military forces, the United States Intelligence Board has reviewed recent estimates on this subject and has prepared the attached paragraphs on selected developments of major significance. These paragraphs supplement the discussion in NIE 11-4-61, Annex A, "Soviet Military Forces and Capabilities," dated 24 August 1961. Where appropriate, they also contain numerical estimates superseding those in the Tables appearing in Annexes A and B. In cases where estimates issued subsequent to 24 August 1961 contain judgments supplementing or modifying the Annexes to NIE 11-4-61, cross-references to these more recent issuances are provided.

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SELECTED DEVELOPMENTS OF MAJOR SIGNIFICANCE TO SOVIET MILITARY FORCES AND CAPABILITIES

Changes in the Size and Composition of the Soviet Armed Forces

(See NIE 11-4-61, Annex A, paragraphs 5-9)

1. The total number of men under arms in the USSR has been increased since July 1961, to a level which we believe approximates the strength maintained prior to the military reorganization and personnel reductions initiated by Khrushchev in January 1960. After a period of reductions and unit deactivations in 1960 and possibly the early months of 1961, total personnel strength in mid-1961 stood at approximately three million men. This reflected the completion of about half the cut which the Soviets originally announced would reduce their armed forces from about 3.6 to about 2.4 million men by the end of 1961. In the summer and fall of 1961, however, the Soviet Government announced that it had suspended further reductions and would retain certain conscripts beyond their normal terms of service; other information indicates that, in addition, selected reservists were recalled to active duty. At the same time, the regular annual induction of new conscripts has occurred on schedule. As a result, we estimate that the personnel strength of the Soviet armed forces has increased to approximately 3½ million men as of 1 January 1962, not counting militarized security forces numbering over 200,000.

2. In general, we believe that most of the additional personnel have been used to fill out existing combat and support units and to maintain some units which were originally scheduled for deactivation. Because information on the manning of Soviet military units accumulates piecemeal over an extended period, no new breakdown of strength by component can be given at this time. However, we be-

lieve that the primary effect has almost certainly been on ground elements of the theater field forces, which probably now have about 150 line divisions and increased nondivisional support. The retirement of older air and naval equipment has probably been slowed down and in some cases halted. By these measures, we believe that the USSR is retaining ground, air, and naval forces at levels higher than originally planned while at the same time proceeding with the planned expansion of capabilities with advanced weapon systems.

3. The changes in personnel policy have been described by Soviet spokesmen as temporary measures pending solution of the Berlin problem, and they are portrayed in Soviet propaganda as reactions to increases in US forces. The USSR is thus publicly leaving the way open for a subsequent reduction in military manpower. We continue to believe that demographic, economic, political, and military considerations will probably cause the Soviet leaders to reinstitute a program of reductions whenever in their view the international outlook makes this feasible. Presumably, any such decision would be announced at a time advantageous to Soviet propaganda and foreign policy. Meanwhile, higher manning levels and the retention of trained personnel contribute to increased combat readiness of the Soviet forces.

Soviet Military Expenditures

(See NIE 11-4-61, Annex A, paragraphs 10-14)

4. In the past six months, the Soviets have announced two substantial increases in the funds allocated to the military establishment. In July 1961 Khrushchev announced that the military allocation for that year was being

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increased from the 9.25 billion new rubles originally planned to 12.4 billion rubles. In the annual budget announcement of early December, planned military expenditures for 1962 were set at 13.4 billion rubles, more than 4 billion rubles or 45 percent greater than the original 1961 allocation. The announcements themselves had a large propaganda ingredient, calculated to show publicly that the USSR is determined to maintain a strong military foundation for its current foreign policy and to convey the impression that it will match increases in US military spending.

5. It is highly unlikely that the full amount of the 3.1 billion ruble increase announced for 1961 could actually have been spent in that year as claimed. It is likely that the bulk of the increase was achieved by transferring to the overt military category certain expenditures which had previously been hidden in other categories of the Soviet budget. Moreover, in the budget for 1962 there are unusual decreases totaling three or more billion rubles in these other categories.

6. As a result of the accounting changes implied by these announcements, a much larger part of total Soviet military expenditure now appears to be included in the overt military category, but we continue to believe that real military costs are larger than those explicitly allocated to defense in the published budget. Based on our estimates of actual Soviet military programing, we believe that these real costs were nearly 15 billion rubles in 1961, and that they will increase to nearly 17 billion in 1962. This estimated increase assumes retention through the coming year of 3½ million military personnel and takes account of likely increases in allocations to long-range attack and air defense forces, and to military research and development. Some additional increase may be incurred by intensified training activities and other measures to increase the readiness of existing Soviet forces. Because the Soviet economy as a whole is expanding, however, actual military expenditures in 1962 will probably continue to comprise on the order of one-tenth of gross national product when measured in ruble terms.

7. From the available data, we are able to apportion slightly more than two-thirds of total military spending among the following major missions: theater operations, including ground and tactical air; air defense; long-range attack; and naval missions. We now estimate that allocations to theater operations will not decline in 1962 as previously expected, and that they will continue to absorb nearly one-third of total Soviet military expenditures. Expenditures on forces for air defense and long-range attack will each probably rise from somewhat under to somewhat over 15 percent of total military spending, and expenditures on forces for naval missions will probably remain at roughly 10 percent. The major part of the unapportioned residual is for research and development.

Intercontinental Ballistic Missiles¹

(See NIE 11-8/1-61, 21 September 1961)

8. In September 1961, we estimated that Soviet ICBM strength, then in the range of 10-25 launchers, would probably not increase substantially until a new, second generation ICBM system was ready for operational use, probably in the latter half of 1962. Such a system, employing a tandem-staged missile, probably smaller than the first generation Soviet ICBM and using storable liquid pro-

¹ In September 1961, the Assistant Chief of Staff, Intelligence, USAF, estimated the numbers of operational ICBM launchers as follows:

<u>Mid-1961</u>	<u>Mid-1962</u>	<u>Mid-1963</u>
About 50	About 100	About 250

At that time he believed that the Soviets would continue to deploy first generation missiles as an interim measure until the second generation missiles became available in early 1962. He further believed that once the second generation system became operational, deployment would be accelerated. It was evident from their test program that the Soviets felt obliged to increase the tempo of their efforts.

The Assistant Chief of Staff, Intelligence, USAF, now believes that developments over the past several months are in keeping with his previously stated view, and notes with interest the change in judgment reflected in the text with respect to the IOC of the second generation ICBM from the latter part of 1962 to the first half of 1962.

pellants, was under intensive development on the Tyuratam test range during 1961. Additional evidence and analysis indicates that the Soviets have made somewhat more rapid progress than we had estimated in developing their second generation ICBM. The ICBM tests into the Pacific in September and October 1961 included successful tests of the new system to about 6,500 n.m. range. It has also become apparent that R&D on this ICBM system was aided by development work on an IRBM system which employs similar design concepts and components. Finally, our information on Soviet construction of deployment complexes with road-served launchers suitable for the second generation ICBM system leads us to believe that some such launchers are now ready to receive missiles.

9. For these reasons, we now estimate that the Soviets will probably achieve an initial operational capability (IOC) with their second generation ICBM system during the first half of 1962. In mid-1962, the USSR will probably have a total of 35-50 launchers from which ICBMs can be fired against the US, including those at first and second generation operational launching complexes in the field as well as R&D launchers at Tyuratam.

10. The six-month advance in estimated IOC date does not necessarily have a direct bearing on the number of operational launchers the USSR will have in mid-1963. If it reflects an advance in the Soviet schedule—not merely in our estimate of it—it may mean only that the R&D aspects of the second generation ICBM program have made up for lost time and are now in proper phase with the preparation of operational launching complexes. However, considering the intensity of R&D activities, our information on launch complexes currently under construction, the leadtimes required for their activation, and the probable existence of unidentified complexes under construction, we now believe that the actual number of operational ICBM launchers in mid-1963 is likely to fall toward the high side of the 75-125 range which we estimated for that

date last September. Additional evidence, and reanalysis to be undertaken in preparation for the forthcoming NIE 11-8-62, may result in a further change in these estimated numerical ranges.

11. For general trends in numbers of operational ICBM launchers in 1964-1967, together with the factors likely to affect Soviet ICBM deployment concepts in this period, see SNIE 11-14-61, "The Soviet Strategic Military Posture, 1961-1967," dated 21 November 1961. For estimates of the strength and deployment of Soviet ballistic missiles of medium and intermediate ranges, see NIE 11-8/1-61, "Strength and Deployment of Soviet Long-Range Ballistic Missile Forces," dated 21 September 1961.

Long Range Aviation

(See NIE 11-4-61, Annex A, paragraphs 16-26)

12. In August 1961, we estimated Soviet Long Range Aviation strength in heavy bombers and tankers at approximately 100 BISON jet and 50 BEAR turboprop aircraft as of mid-1961, and projected a gradual decline in the heavy bomber force over the next five years. It has been established that over about the past 18 months two additional regiments have been activated at Soviet heavy bomber airfields, additional aircraft have been assigned to units at these airfields, and flying activity has intensified. This is particularly noticeable in the case of units containing BEAR bombers. As a consequence, a complete re-examination of evidence on Soviet heavy bombers has been made.

13. On the basis of this review, we believe that the production of BISON bombers and tankers continued at a very low rate until about the middle of 1961, and that this production program has probably now ceased. Total production of BISONs was probably about 150; about 110 BISONs are now in operational units.²

² See the footnote of the Assistant Chief of Staff, Intelligence, USAF, following paragraph 14.

14. Production of BEARs, on the other hand, is less certain. We believe that a total of 55-60 were produced and that it is unlikely that any new BEAR bombers have been produced since 1957. Continued activity at the BEAR factory is probably accounted for by production of the CLEAT transport and by two consecutive major modifications of existing BEARs, the first to correct defects in the aircraft and the second to fit them for employment of air-to-surface missiles. The increased activity at BEAR bases, together with some other bits of evidence, can be interpreted to mean that production continued and that there are somewhat larger numbers of BEARs in operational units than we have estimated. However, it is much more likely that the increased unit activity results from the assignment to BEAR bases of additional BADGER jet medium bombers in about mid-1960; some number of BADGERs has always been present in Soviet heavy bomber units, apparently to perform ECM, decoy, and other supporting missions in conjunction with heavy bomber strikes. We therefore continue to estimate that the most probable number of BEARs in operational units is 50, but do not exclude the possibility of a few additional BEARs in units at the present time.³

15. Present Soviet strength in BISONs and BEARs will probably be maintained for a year

³ The Assistant Chief of Staff, Intelligence, USAF, concurs in the estimate that BISON production continued until about mid-1961, but believes that the total of BISONs produced is more probably about 170 aircraft. He does not concur in the estimate that BEAR production ceased in 1957. Rather, he believes that the evidence indicates that BEAR production continued through 1960, and that at least 90 BEARs were produced. He further believes that increased activity at Long Range Aviation heavy bomber bases and other direct evidence supports a total of 120 BISONs and 80 BEARs in operational units at the present time.

or so and then decline gradually as a result of normal attrition. There continues to be no good evidence of a Soviet intention to series produce the BOUNDER or any other follow-on heavy bomber, although research and development in new heavy bombers probably continues. There is a possibility that a few such aircraft will be in units in the mid-1960's.⁴ About half of the BEAR force has now been modified to employ 350 n.m. supersonic air-to-surface missiles for standoff attack on land targets, and we believe that virtually all operational BEARs will have been so modified by mid-1963. There is no evidence that BISONs have been equipped for air-to-surface missile delivery.

16. BADGER medium bomber strength in Long Range Aviation was reduced by about 150 aircraft in the last two years. It will probably continue to decline, but by the mid-1960's a considerable portion of the medium bomber force is likely to be supersonic "dash" BLINDERS, some of them probably equipped for standoff missile delivery. Although the evidence is inconclusive, we believe that BLINDERS are now beginning to enter operational units.

17. The table below projects the trends in Long Range Aviation over the next five years, on our assumptions that the Soviets make no drastic policy changes and that the force continues to comprise presently-known aircraft types. In addition to the medium bombers shown in the table, the USSR now has about 350 such aircraft in Naval Aviation and will probably have about 400 in the mid-1960's, the bulk of them BADGERs but probably including some BLINDERS.

⁴ The Assistant Chief of Staff, Intelligence, USAF, believes, in consideration of continued Soviet research and development in new bombers and other relevant factors, that the USSR will probably introduce a new heavy bomber into the operational inventory about 1964.

Probable Strength of Soviet Long Range Aviation

	1 Jan- uary 1962	Mid- 1962	Mid- 1963	Mid- 1964	Mid- 1965	Mid- 1966
<i>Heavy Bombers^a</i>						
BISON ^a	110	110	105	100	95	85
BEAR ^b	50	50	45	45	40	40
TOTAL	160	160	150	145	135	125
<i>Medium Bombers</i>						
BADGER ^a	950	875	700	575	450	350
BLINDER ^c	a few	25	100	175	250	300
TOTAL ^d	950	900	800	750	700	650

^a BISON and BADGER figures include aircraft fitted as tankers. These are available in all BISON units and in about 60 percent of the BADGER units. They can probably be reconverted to bombing use in a few hours.

^b By mid-1963, virtually all BEARs will probably have been modified to carry and launch 350 n.m. air-to-surface missiles rather than bombs.

^c Some BLINDERS will probably be equipped with a new air-to-surface missile. We have no present evidence of a BLINDER tanker; modified BADGER and BISON tankers could probably perform this function.

^d Does not include medium bombers assigned to Naval Aviation.

^e The Assistant Chief of Staff, Intelligence, USAF, believes that the numbers of heavy bombers should read:

	1 Jan- uary 1962	Mid- 1962	Mid- 1963	Mid- 1964	Mid- 1965	Mid- 1966
<i>Heavy Bombers</i>						
BISON	120	120	120	115	110	100
BEAR	80	80	80	75	70	60
Follow-on	10	20	40
TOTAL	200	200	200	200	200	200

The Assistant Chief of Staff, Intelligence, USAF, further believes that, with these numbers of aircraft in Long Range Aviation, and in consideration of pertinent operational factors (excluding combat attrition), the USSR could put about 300 bombers over North America on two-way missions in an initial attack. Moreover, he estimates that in a maximum effort, again not considering combat attrition, and employing one and two-way missions, over 500 bombers could reach targets in North America. (See page 6, paragraph 26 of NIE 11-4-61, Annex A.)

Tactical Aviation

(See NIE 11-4-61, Annex A, paragraphs 65-69)

18. Recent observation of 11 Soviet fighter aircraft practicing low altitude over-the-shoulder bombing maneuvers in East Germany, together with other evidence, confirms our previous belief that the Soviets have a fighter atomic delivery capability.

Nuclear Submarines and Submarine-Launched Missiles

(See NIE 11-4-61, Annex A, paragraphs 28-33, 75-76)

19. It is still not possible to state incontrovertibly that the USSR has any nuclear submarines at all. However, the interpretation of a substantial body of evidence, taken together with the statements of Soviet leaders, brings us to the estimate that 12 submarines in the Soviet fleet are nuclear propelled. Eight of these are believed to be the "H" class ballistic missile submarines, and the remainder are "N" class torpedo attack submarines. We believe that a construction rate of 8 or 9 nuclear submarines per year can soon be achieved and that the Soviets will continue to build them at this approximate rate through mid-1966.⁵ This estimate is based on available evidence of Soviet nuclear submarine construction and operations, the estimated capabilities of the two Soviet shipyards believed to be engaged in nuclear submarine production, and the estimated Soviet capability to build nuclear reactors. It is possible that during the next five years the Soviets will expand their nuclear submarine effort, but we believe that limitations on Soviet reactor technology, as well as the time required to develop im-

⁵ The Assistant Chief of Staff, Intelligence, USAF, believes that the 8 or 9 nuclear submarines per year as indicated in this paragraph is probably a maximum production capability. Considering past experience with other Soviet weapon systems, maximum production is not likely to be sought or achieved by them. In view of this, and considering construction and fitting-out time required for new submarines, balanced against current evidence on the number of submarines under construction, the numbers and rationale on this subject expressed in NIE 11-4-61, Annexes A and B, appear to remain sound.

proved submarine types from earlier classes, would tend to limit the annual building rate.

20. There is evidence that missiles of essentially the same type are carried by all presently-operational Soviet ballistic missile submarines, including the seven conventionally-powered "Z-conversion" and 18 "G" class units as well as the eight nuclear-powered "H" class submarines. These missiles are believed capable of delivering nuclear warheads in the low megaton range to distances of up to about 350 n.m., with a CEP of 1-2 n.m. against land targets under operational conditions. Missiles can probably be launched only while the submarine is surfaced. The 33 presently-operational ballistic missile submarines carry two or three missiles each, depending on their class, and the total complement of all these submarines is about 90 missiles. Available evidence indicates that these submarines are also equipped for torpedo attack.

21. Because of the technical difficulties militating against the likelihood of submerged launch of the present missile system, and because of the complete absence of evidence of current Soviet work on a submarine system for submerged launching of longer range ballistic missiles, we now estimate that 1964 is the earliest date at which the USSR could achieve such a system. Indeed, the chances seem about even that the Soviets will regard present systems as satisfactory for some years to come. A successor to the "H" class, if it appears, could incorporate a more sophisticated missile system with some six missiles per submarine.

22. The majority of nuclear submarines produced to date have been ballistic missile types.

However, we believe that the Soviets will require more nuclear-powered torpedo submarines for various purposes, including the interdiction of sea lines of communication, attack on naval surface forces at sea, and anti-submarine warfare. In the future, some nuclear submarines may be equipped with missiles suitable for use against surface ships and submarines.

23. In the table below, the estimated totals represent our best judgment regarding the construction of nuclear submarines of all types. On the basis of classes identified to date, they are shown in two categories: ballistic missile and torpedo attack. This allocation is believed generally valid for the next year or so, but beyond that point, as indicated in the preceding paragraphs, the totals may include a class with antiship missiles, a class with more sophisticated ballistic missiles, or both. We cannot now estimate the magnitude of such programs, nor can we determine which of the identified classes will be affected.

24. In addition to the nuclear-powered submarine programs described above, there is increasing evidence pointing to a program to equip conventional submarines with cruise-type missiles. Within the past year, conventionally-powered "W" class submarines equipped with cylinders or tubes suitable for carrying missiles have been observed in three of the four Soviet Fleet areas, and there is evidence that at least two important shipyards are involved in modifying these submarines. Moreover, we believe that the USSR has developed a cruise-type missile with homing guidance and a speed of about Mach 1, de-

Probable Soviet Strength in Nuclear-Powered Submarines ⁶

	1 Jan- uary 1962	Mid- 1962	Mid- 1963	Mid- 1964	Mid- 1965	Mid- 1966
<i>Ballistic Missile Submarines</i> ("H" and/or successor classes)	8	10	15-16	20-22	25-27	30-32
<i>Torpedo Attack Submarines</i> ("N" and/or successor classes)	4	5	6-8	9-11	12-15	15-19
TOTAL	12	15	21-24	29-33	37-42	45-51

⁶ See the footnote of the Assistant Chief of Staff, Intelligence, USAF, to paragraph 19.

signed to fly about 350 n.m. at a few thousand feet altitude and capable of carrying a warhead of about 1,000 pounds. While the direct association of these developments cannot be established at this time, we estimate that some "W" class cruise-type missile submarines are probably now operational. Additional submarines of this class may be similarly modified over the next five years. A new class of conventional submarines designed specifically for this purpose may also be under development.

25. The new information on these developments tends to clarify the missions of Soviet missile submarines. Because of their operating ranges, "W" class submarines equipped with cruise-type missiles are suited primarily for operations against surface ships in the North Atlantic and Western Pacific, whereas missile submarines of the "Z," "G," and "H" classes have sufficient range to operate in US coastal waters and their ballistic missiles are designed for employment against fixed targets. In an Artillery Day pronouncement in November 1961, a Soviet naval spokesman clearly distinguished between the navy's ballistic missiles, described as "basically assigned to the destruction of coastal targets," and its "self-homing" missiles, described as the "most effective means" of destroying ships, especially aircraft carriers. We continue to believe that the Soviets regard submarine-launched ballistic missiles as supplementing other means of nuclear attack against the US. The cruise-type missile program, together with the program to equip naval BADGER aircraft with antiship missiles, indicates a continuing major Soviet effort to counter Western surface naval capabilities, especially carrier strike forces.

Defense Against Ballistic Missiles

(See NIE 11-4-61, Annex A, paragraph 4)

26. The Soviets have made further progress in R&D on systems to defend against ballistic missiles, especially in the recent nuclear test series. During that series, three tests were conducted at high altitudes: one of about 200 KT, detonated at 100,000-200,000 feet, and two of low yield, detonated at 80 and 160 n.m. In

the latter tests, the nuclear devices were apparently carried by 1,100 n.m. ballistic missiles fired from Kapustin Yar toward the Sary Shagan antimissile research center. The tests were probably designed to determine the ability of antimissile system radars to track incoming ballistic missiles, and possibly antimissile missiles as well, in the presence of debris and ionization from nuclear bursts. Although these tests probably were not complete antimissile system tests, they contributed valuable effects information to the antimissile development program.

27. Our evidence is still insufficient to determine whether or not the Soviets have actually conducted firings against incoming ballistic missiles, but we believe it likely that they have done so on a number of occasions over the past year. Nor can we determine the method the Soviets have chosen to perform the complex tasks of detection, acquisition, discrimination, and tracking necessary to successful solution of the intercept problem. We know, however, that they are concentrating on terminal intercept techniques, and their R&D interest apparently includes techniques for interception both inside and outside the atmosphere.

28. While many uncertainties remain as to the role of the electronic installations at the Sary Shagan antimissile research center, we believe that the great number and variety of these installations represent Soviet development of more than one type of antimissile system. In addition to defense against IRBMs and ICBMs, the USSR is probably developing systems to cope with other types of Western ballistic missiles. For defense against free rockets and short-range ballistic missiles, the Soviets can probably achieve some capability by modifying their surface-to-air missile system designed for use against aircraft. Considering the years of experience in antimissile research at Sary Shagan, the intensity of the Soviet program there, and the availability of antiaircraft systems such as the SA-2, we believe that the USSR could probably achieve an IOC against tactical missiles with ranges up to about 50 n.m. in 1962-1963. An entirely new system would prob-

ably be required to defend against Western tactical missiles of longer ranges. We believe that such a system is under development at Sary Shagan, and that it is designed to defend Soviet targets, including those of theater field forces, against ballistic missiles with ranges of roughly 50 to 500 n.m. An IOC could probably be achieved in 1963-1964.

29. Considering the status of the Soviet R&D program and the political and military advantages of early deployment of a system to defend against IRBMs and ICBMs, we have estimated that the USSR will begin at least limited deployment of such a system in 1963-1966. Lead times of some two to three years are probably required for the construction and installation of radars and other system components in the vicinity of targets to be de-

fended, and we have not yet identified any such activities. Deployment activities might go undetected for a considerable time after their initiation, however, and at present we do not regard the lack of evidence as warranting a change in the estimated IOC date.

Recent Soviet Nuclear Tests

(See NIE 11-4-61, Annex A, paragraphs 92-93)

30. For a summary of conclusions drawn from the recent Soviet test series, based on preliminary analysis, see SNIE 11-14-61, "The Soviet Strategic Military Posture, 1961-1967," dated 21 November 1961. For a more comprehensive analysis, see the forthcoming NIE 11-2-62, "The Soviet Atomic Energy Program," now scheduled for completion in February or March 1962.